NATIONAL GUIDELINE CLEARINGHOUSE™ (NGC) GUIDELINE SYNTHESIS

ASSESSMENT AND MANAGEMENT OF URINARY INCONTINENCE

Guidelines

1. **Hartford Institute for Geriatric Nursing (HIGN)**. Urinary incontinence (UI) in older adults admitted to acute care. In: Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 309-36. [45 references]
2. **Scottish Intercollegiate Guidelines Network (SIGN)**. Scottish Intercollegiate Guidelines Network (SIGN). Management of urinary incontinence in primary care. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2004 Dec. 41 p. (SIGN publication; no. 79). [128 references]

INTRODUCTION

A direct comparison of guidelines developed by the Hartford Institute for Geriatric Nursing (HIGN) and the Scottish Intercollegiate Guidelines Network (SIGN) for assessment and management of urinary incontinence (UI) is provided in the tables, below. The HIGN guideline applies to the acute care setting, while the SIGN guideline applies to the primary care setting.

- Table 1 provides a quick-view glance at the primary interventions considered by each group.
- Table 2 provides a comparison of the overall scope of both guidelines.
- Table 3 provides a more detailed comparison of the specific recommendations offered by each group for the topics under consideration in this synthesis, including:
  - Assessment
  - Management
    - Non-Pharmacologic Interventions
    - Pharmacotherapy
    - Referral
- Table 4 lists the potential benefits and harms associated with the implementation of each guideline as stated in the original guidelines.
- Table 5 presents the rating schemes used to rate the level of evidence and/or the strength of the recommendations.

Following the content comparison tables, the areas of agreement and areas of differences among the guidelines are identified.

Related Guideline

Registered Nurses Association of Ontario (RNAO). Promoting continence using prompted voiding. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2005 Mar. 48 p. [42 references]

Abbreviations

- ACOG, American College of Obstetricians and Gynecologists
- BMI, body mass index
- DRE, digital rectal examination
- FDA, U.S. Food and Drug Administration
- GPP, Good Practice Point
- HIGN, Hartford Institute for Geriatric Nursing
- PFME, Pelvic floor muscle exercises
- PVR, Post void residual volume
- RCT, randomized controlled trial
- SIGN, Scottish Intercollegiate Guidelines Network
- UI, urinary incontinence
- UTI, urinary tract infection

TABLE 1: COMPARISON OF INTERVENTIONS AND PRACTICES CONSIDERED
("✓" indicates topic is addressed)

	HIGN (2008)	SIGN (2004)
Assessment	✓	✓
Management		
Non-Pharmacological Interventions	✓	✓
Pharmacotherapy		✓
Referral	✓	✓

TABLE 2: COMPARISON OF SCOPE AND CONTENT

Objective and Scope	
HIGN (2008)	To provide a standard of practice protocol for management of urinary incontinence by nurses in practice settings
SIGN (2004)	• To identify opportunities and effective techniques within primary care for assessing and treating UI in adults

	• To offer the primary care practitioner an indication of the factors that should lead to an onward referral
Target Population	
HIGN (2008)	• United States • Older adults hospitalized for acute care
SIGN (2004)	• Scotland • Adults with UI
Intended Users	
HIGN (2008)	Advanced Practice Nurses Allied Health Personnel Health Care Providers Nurses Health Plans Hospitals Managed Care Organizations Pharmacists Physical Therapists Physician Assistants Physicians Students
SIGN (2004)	Advanced Practice Nurses Allied Health Personnel Nurses Patients Physical Therapists Physician Assistants Physicians

TABLE 3: COMPARISON OF RECOMMENDATIONS FOR MANAGEMENT OF PRESSURE ULCERS	
ASSESSMENT	
HIGN (2008)	**<u>Parameters of Assessment</u>** • Document the presence/absence of UI for all patients on admission (International Consultation on Incontinence [ICI], 2000 **[Level**

	VI]).
	• Document the presence/absence of an indwelling urinary catheter.
	  • Determine appropriate indwelling catheter use: severely ill patients, patient with Stage III to IV pressure ulcers of the trunk, urinary retention unresolved by other interventions (Wound Ostomy Continence Nurse's Society, 1996 **[Level VI]**).
	• For patients with presence of UI:
	
	The nurse collaborates with interdisciplinary team members to:
	
	  • Determine whether the problem is transient, established (stress/urge/mixed/overflow/functional), or both and document (Fantl et al., 1996 **[Level I]**; ICI, 2000 **[Level VI]**); Johnson et al., 2001 **[Level VI]**).
	  • Identify and document the possible etiologies of the UI (Fantl et al., 1996 **[Level I]**; ICI, 2000 **[Level VI]**).

SIGN (2004)	**<u>Assessment of Urinary Incontinence</u>** **Risk Factors for Developing Urinary Incontinence** **B** - Health professional should be vigilant and adopt a proactive approach in consultations with patients who are at greatest risk of developing urinary incontinence through factors including age, the menopause, pregnancy and childbirth, high BMI, and experience of continence problems in childhood. **Initiating an Assessment of Urinary Incontinence** **C** - Health care professionals should recognize the difficulty that some patients have in raising concerns about continence and should be proactive in questioning patients about continence during consultations. **C** - Health professional should have a positive attitude to continence problems. **B** - Assessment, treatment, and referral, as appropriate, should be offered to all patients with urinary continence problems. **Primary Care Assessment Tools** Clinical history taking is an essential part of the initial assessment. **GPP** - A routine clinical history of urinary incontinence should cover: • Medication • Bowel habit

	• Functional status and toilet access • Sexual dysfunction • Quality of life A clinical history may be supplemented by appropriate use of the following tools: • Questionnaires • Pelvic floor assessment • Urinalysis • Post void residual volume • Flow rate • Digital rectal examination • Voiding diaries (frequency volume charts) • Pad tests *Assessment Tool Recommendations* **D** - Initial assessment of a male patient with UI should include completion of a voiding diary, urinalysis, estimation of PVR volume, and DRE. **D** - Initial assessment of a female patient with UI should include completion of a voiding diary, urinalysis, and, where symptoms of voiding dysfunction or repeated UTIs are present, estimation of PVR volume.
MANAGEMENT	
Non-Pharmacologic Interventions	
HIGN (2008)	**<u>Nursing Care Strategies</u>** **General Principles That Apply to Prevention and Management of All Forms of UI** • Identify and treat causes of transient UI (ICI, 2000 **[Level VI]**). • Identify and continue successful pre-hospital management strategies for established UI. • Develop an individualized plan of care using data obtained from the history and physical examination, and in collaboration with other team members. • Avoid medications that may contribute to UI (Kane, Ouslander, & Abrass, 2004 **[Level VI]**). • Avoid indwelling urinary catheters whenever possible to avoid risk for UTI (Dowd & Campbell, 1995 **[Level IV]**; Bouza et al., 2001 **[Level IV]**; Madigan & Neff, 2003 **[Level I]**; Zimakoff et al., 1996 **[Level IV]**; Wong, 1981 **[Level VI]**). • Monitor fluid intake and maintain an appropriate hydration schedule.

- Limit dietary bladder irritants (Gray & Haas, 2000 **[Level VI]**).
- Consider adding weight loss as a long-term goal in discharge planning for those with a body mass index (BMI) greater than 27 (Subak et al., 2005 **[Level II**).
- Modify the environment to facilitate continence (Fantl et al., 1996 **[Level I]**; Jirovec, 2000 **[Level VI]**; Palmer, 1996 **[Level VI]**).
- Provide patients with usual undergarments in expectation of continence, if possible.
- Prevent skin breakdown by providing immediate cleansing after an incontinent episode and utilizing barrier ointments (Ersser et al., 2005 **[Level I]**).
- Pilot test absorbent products to best meet patient, staff, and institutional preferences (Dunn et al., 2002 **[Level I]**), bearing in mind that diapers have been associated with UTIs (Zimakoff et al., 1996 **[Level IV]**).

Strategies for Specific Problems

Stress UI

- Teach PFMEs (Bo, Talseth, & Holme, 1999 **[Level II**; Hay-Smith & Dumoulin, 2006 **[Level I]**; ICI, 2000 **[Level VI]**).
- Provide toileting assistance and bladder training as needed (ICI, 2000 **[Level VI]**).
- Consider referral to other team members if pharmacologic or surgical therapies are warranted.

Urge UI

- Implement bladder training (retraining) (ICI, 2000 **[Level VI]**; Teunissen et al., 2004 **[Level I]**).
- If patient is cognitively intact and is motivated, provide information on urge inhibition (Gray, 2005 **[Level VI]**; Smith, 2000 **[Level VI]**).
- Teach PFMEs to be used in conjunction bladder training or retraining (Flynn, Cell, & Luisi, 1994 **[Level IV]**).
- Collaborate with prescribing team members if pharmacologic therapy is warranted.
- Initiate referrals for those patients who do not respond to the above.

Overflow UI

- Allow sufficient time for voiding.
- Discuss with interdisciplinary team the need for determining a post-void residual (PVR) (ICI, 2000 **[Level VI]**; Shinoplous, 2000 **[Level VI]**; Weiss, 1998 **[Level VI]**) (see Figure 13.1 in the original guideline document).
- Instruct patients in double voiding and Crede's maneuver (Doughty, 2000 **[Level VI]**).

	• Sterile intermittent is preferred over indwelling catheterization as needed (Saint et al., 2006 **[Level II**; Terpenning, Allada, & Kauffaman, 1989 **[Level IV]**; Warren, 1997 **[Level VI]**). • Initiate referrals to other team members for those patients requiring pharmacologic or surgical intervention. **Functional UI** • Provide individualized, scheduled toileting or prompted voiding (Eustice, Roe, & Paterson, 2005 **[Level I]**; Jirovec, 2000 **[Level VI]**; Ostaszkiewicz, Johnston, & Roe, 2005 **[Level I]**). • Provide adequate fluid intake. • Refer for physical and occupational therapy as needed. • Modify environment to be conducive to maintaining independence with continence (Fantl et al., 1996 **[Level I]**; Jirovec, 2000 **[Level VI]**; Jirovec, Brink, & Wells, 1988 **[Level VI]**); Palmer, 1996 **[Level VI]**).
SIGN (2004)	**<u>Physical Therapies</u>** **Pelvic Floor Muscle Exercises** PFMEs are effective in the treatment of stress and mixed urinary incontinence, but there is insufficient evidence to assess their efficacy in the treatment of urge incontinence. Expert opinion suggests that PFMEs may have a role in treatment of urge incontinence in combination with bladder training. **A** - PFME should be the first choice of treatment offered to patients suffering from **stress or mixed incontinence**. Exercise programmes should be tailored to be achievable by the individual patient. **D** - PFME should be considered as part of a treatment plan for patients with **urge urinary incontinence**. **D** - Digital assessment of pelvic floor muscle function should be undertaken prior to initiating any PFME treatment. **GPP** - Digital assessment of pelvic floor muscle function should only be carried out by an appropriately trained clinician. **A** - Where group physiotherapy is available patients should be offered the choice of attending or being seen individually. **GPP** - Where group physiotherapy is offered individual assessment and monitoring should be carried out. **Pelvic Floor Muscle Exercises in Men Undergoing Radical**

	Prostatectomy **B** - PFME treatment should be considered for patients following radical prostate surgery. **Bladder Retraining** **C** - Bladder retraining should be offered to patients with urge urinary incontinence. **Lifestyle Interventions** **GPP** - As excessively small or large urine output can contribute to urinary incontinence, patients should be encouraged to adjust their fluid intake to produce a 24 hour urinary output of between 1,000 mL and 2,000 mL. **Containment** *Product Evaluation* Containment products are an essential component in the management of incontinence, but they should only be issued after an initial assessment or when a management plan has been completed and reviewed. Offering disposable pads prematurely can lead to psychosocial dependence upon them and reluctance to accept active treatment. Patients starting physical or medical therapies may require containment products in the short term; this will depend upon their symptoms, leakage incidence, personal choice and lifestyle. Patients with intractable urinary incontinence will require products long term. A number of factors may influence choice of product including patient preference, level of disability, gender, skin integrity, history of allergy, incidence of infection, availability of carers and history of failure with previous products. **D** - All patients should undergo a continence assessment before product issue. Issue of products should not take the place of therapeutic interventions. **GPP** - Professionals should be vigilant to the proper use of products with regard to application, fitting and tissue viability. Where products appear not to have been effective, the patient should be reassessed for product suitability.
Pharmacotherapy	
HIGN (2008)	No specific recommendations offered.

SIGN (2004)	**Stress Incontinence** *Combined Noradrenaline and Serotonin Reuptake Inhibitors* **A** - Duloxetine should be used only as part of an overall management strategy in addition to PFMEs and not in isolation. A 4-week trial of duloxetine is recommended for female patients with moderate to severe stress incontinence. Patients should be reviewed again after 12 weeks of therapy to assess progress and determine whether it is appropriate to continue treatment. **Detrusor Overactivity and Urge Incontinence** *Antimuscarinics* **A** - A trial of oxybutynin, propiverine, tolterodine, or trospium should be given to patients with significant urgency with or without urge incontinence. The dose should be titrated to combat adverse effects. **GPP** - Antimuscarinic therapy should be tried for a period of six weeks to enable an assessment of the benefits and side effects. Treatment should be reviewed after six months to ascertain continuing need.
Referral	
HIGN (2008)	**Stress UI** Consider referral to other team members if pharmacologic or surgical therapies are warranted. **Urge UI** Collaborate with prescribing team members if pharmacologic therapy is warranted. **Overflow UI** Initiate referrals to other team members for those patients requiring pharmacologic or surgical intervention. **Functional UI** Refer for physical and occupational therapy as needed.
SIGN (2004)	**Referral to Secondary Care** *All Patients* **D** - Patients should be referred to secondary care if previous surgical or

	non-surgical treatments for UI have failed or if surgical treatments are being considered. *Female Patients* **D** - Female patients with suspected voiding dysfunction should be referred to secondary care. **D** - Female patients with symptomatic pelvic organ prolapsed should be referred to secondary care.

TABLE 4: BENEFITS AND HARMS	
Benefits	
HIGN (2008)	**Patient** • Fewer or no episodes of urinary incontinence (UI) or complications associated with UI **Nurse** • Documentation of assessment of continence status at admission and throughout hospital stay. If UI is identified, documentation and determination of type of UI • Use of interdisciplinary expertise and interventions to assess and manage UI during hospitalizations • Inclusion of UI in discharge planning needs and referral as needed **Institution** • Decreased incidence and prevalence of transient UI • Hospital policies that require assessment and documentation of continence status • Improved administrative support and ongoing education regarding assessment and management of UI for staff
SIGN (2004)	Effective treatment and management of UI resulting in reduced incontinence episode frequency, reduced urgency, increased patient satisfaction, improved quality of life, and reduced incidence of potential harms (e.g., falls and fractures).
Harms	
HIGN	Indwelling urinary catheters are associated with the risk of UTI.

(2008)	
SIGN (2004)	• There are inherent risks of trauma and infection with catheterisation and there may be issues around patient dignity and acceptability that should be considered. • Side effects of adrenoreceptor agonists were noted to be minor, although rare and potentially serious side effects, such as cardiac arrhythmias and hypertension, were reported. • Nausea was the most commonly reported adverse event in one study of duloxetine. • The most common side effects of antimuscarinic drugs are dry mouth, blurred vision, abdominal discomfort, drowsiness, nausea, and dizziness. Urinary retention is a potentially serious but less common side effect. Oxybutynin immediate release (IR) preparation has the highest incidence of side effects. • Offering disposable pads prematurely can lead to psychological dependence upon them and reluctance to accept active treatment.

TABLE 5: EVIDENCE RATING SCHEMES AND REFERENCES	
HIGN (2008)	**Levels of Evidence** **Level I**: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews) **Level II**: Single experimental study (randomized controlled trials [RCTs]) **Level III**: Quasi-experimental studies **Level IV**: Non-experimental studies **Level V**: Care report/program evaluation/narrative literature reviews **Level VI**: Opinions of respected authorities/Consensus panels Reprinted with permission from Springer Publishing Company: Capezuti, E., Zwicker, D., Mezey, M. & Fulmer, T. (Eds). (2008) *Evidence Based Geriatric Nursing Protocls for Best Practice*, (3rd ed). New York: Springer Publishing Company.
SIGN (2004)	**Levels of Evidence:** **1++**: High quality meta-analyses, systematic reviews of randomized controlled trials (RCTs), or RCTs with a very low risk of bias

	1+: Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias **1-**: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias **2++**: High quality systematic reviews of case control or cohort studies High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal **2+**: Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal **2-**: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal **3**: Non-analytic studies (e.g., case reports, case series) **4**: Expert opinion **Grades of Recommendation** **A**: At least one meta-analysis, systematic review of RCTs, or RCT rated as 1++ and directly applicable to the target population; or A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results **B**: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 1++ or 1+ **C**: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 2++ **D**: Evidence level 3 or 4; or Extrapolated evidence from studies rated as 2+

GUIDELINE CONTENT COMPARISON

The Hartford Institute for Geriatric Nursing (HIGN) and the Scottish Intercollegiate Guidelines Network (SIGN) present recommendations for the assessment and management of urinary incontinence. The groups provide explicit reasoning behind their judgments, ranking the level of evidence for each major recommendation.

Areas of Agreement

Assessment

The guidelines generally recommend similar components for the assessment of UI: medical and UI history; physical examination; ruling out transient or underlying causes of UI (such as infection and atrophic vaginitis); and distinguishing between the different types of incontinence.

SIGN recommends that initial assessment of all patients with UI should include completion of a voiding diary and urinalysis. They also recommend DRE and estimation of PVR volume be performed in all men, and estimation of PVR be performed in women with symptoms of voiding dysfunction or a history of repeated UTIs. SIGN also recommends a pelvic floor assessment be performed and that symptom severity be evaluated using a standardized questionnaire. HIGN recommends assessing and documenting the presence/absence of an indwelling catheter and its use.

Non-Pharmacologic Therapy

Both guidelines agree that PFME should be used for stress incontinence. HIGN also recommends PFME, in conjunction with bladder training, for urge incontinence. SIGN similarly notes that expert opinion suggests that PFMEs may have a role in treatment of urge incontinence in combination with bladder training.

Both groups agree that bladder training should be used for urge incontinence. HIGN also notes that bladder training should be provided as needed for the management of stress UI.

Areas of Differences

Pharmacologic Therapy

Only SIGN addresses drug treatment for UI, recommending a 4-week trial of duloxetine for female patients with moderate to severe stress incontinence. They also recommend a trial of oxybutynin, propiverine, tolterodine, or trospium be given to patients with significant urgency with or without urge incontinence.

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recommendations. This synthesis was revised in December 2008 to update HIGN recommendations. This synthesis was revised most recently in January 2009 to remove FMSD recommendations.

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